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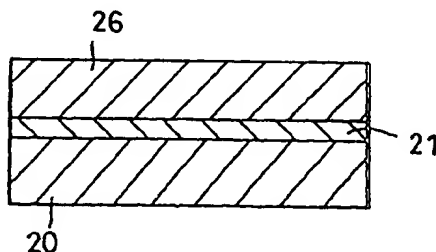
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(54) Carbon nanotube device, manufacturing method of carbon nanotube device, and electron emitting device

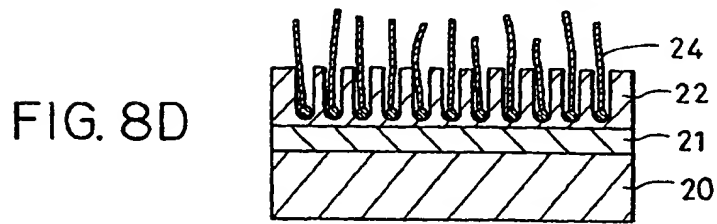
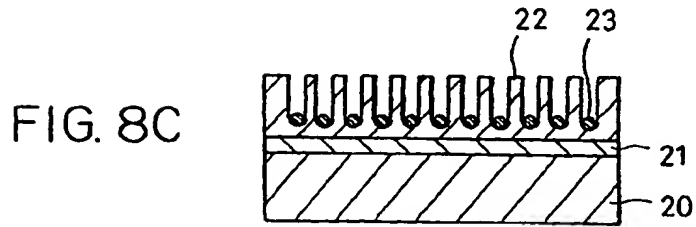
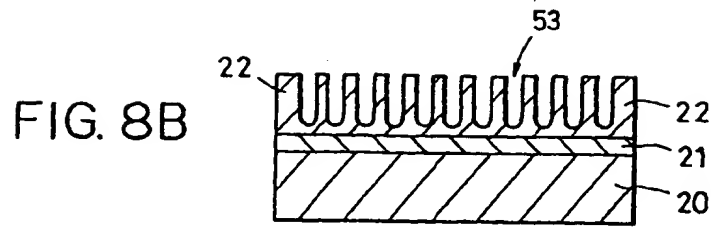
(57) The present invention discloses a carbon nanotube device comprising a support having a conductive surface and one or more carbon nanotubes, one of whose terminus binds to the conductive surface so that conduction between the surface and the carbon nanotube is maintained, wherein a root of the carbon nano-

tube where the carbon nanotube binds to the conductive surface is surrounded by a wall. Such a carbon nanotube device, having carbon nanotubes with a uniform direction of growth, can generate a large quantity of emitted electrons when it is used as an electron emission device.

FIG. 8A



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# EUROPEAN SEARCH REPORT

Application Number  
EP 98 30 8872

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	T. KYOTANI ET AL.: "Preparation of Ultrafine Carbon Tubes in Nanochannels of an Anodic Aluminum Oxide Film" CHEM. MATER., vol. 8, 1996, pages 2109-2113, XP000626894 * page 2109, right-hand column, line 1 - page 2113, right-hand column, line 34 *	1	D01F9/127 G01B7/34
A	EP 0 758 028 A (RESEARCH DEVELOPMENT CORPORATION OF JAPAN) 12 February 1997 * page 3, line 14 - page 4, line 49; claims; figure 1 *	1	
A	WO 90 07023 A (HYPERION CATALYSIS INT.) 28 June 1990 * page 2, line 14 - page 3, line 19 * * page 4, line 31 - page 8, line 6; claims *	1	
P,A	WO 98 05920 A (WILLIAM MARSH RICE UNIVERSITY) 12 February 1998 * page 8, line 4 - page 9, line 25; figure 1D *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			D01F G01B C01B
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>19 February 1999</b>	Examiner <b>Hellemans, W</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EP 0 913 508 A3 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

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